



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,081	01/02/2004	Joseph J. Schottler	P06702US0	1318
34082	7590	06/07/2005	EXAMINER	
ZARLEY LAW FIRM P.L.C. CAPITAL SQUARE 400 LOCUST, SUITE 200 DES MOINES, IA 50309-2350			LAM, TUAN THIEU	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/751,081

Applicant(s)

SCHOTTLER, JOSEPH J.

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is a response to the amendment filed 5/25/2005. Claims 1-5 and 12 are pending and are under examination. The finality of the Office action dated on 4/13/2005 has been withdrawn in view of a new ground of rejection as follow.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 19918025 in view of Microelectronic Circuits by Sedra et al., both newly cited prior art.

Figure 3 shows driver circuit for driving a high side NFET switch (M1) comprising a charge pump (LP), a first transistor (M7), a second transistor (M8), a third transistor (M2) with a gate, the first and third transistors having threshold currents, and each transistor electrically connected to an input signal (3), first and second resistors (R3, R5) electrically connected to the transistors, wherein the charge pump creates a local positive voltage with the driver circuit, deactivating the first and second transistors (M7 and M8) when the input signal (3) below the threshold current of the first transistor (M7) (note: when the input signal is at logic low, NFET M7 is off, PFET M8 is off), pulling the gate electrode of the third transistor (NFET M2) high via the first and second resistors to drive current from the local positive voltage into the gate of the NFET (M1) (when NFET7 and PFET M8 are off, the gate electrode of NFET M2 is pulling at a high logic level via the first and second resistors R3 and R5).

The differences seen between the prior art and the present invention is that the prior art's driver circuit is made of FETs instead of bipolar transistors as called for in claims 1 and 12. Sedra et al.'s teaches that bipolar transistors are reliable and insensitive to variations in device parameters. Therefore, it would have been obvious to person skilled in the art at the time the invention was made to replace the FETs of DE 19918025 reference with bipolar transistor because bipolar transistors are reliable and insensitive to variations in device parameters thus preventing erroneous operations.

Regarding claim 2, the charge pump LP is driven by an oscillator (not shown for generating an oscillation signal LP3).

Regarding claim 5, figure 3 of DE 19918025 shows a logic supply voltage (Vbb).

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 19918025 in view of Microelectronic Circuits by Sedra et al., both newly cited prior art, and in further view of Electronic Circuits Discrete and Integrated by Schilling et al., prior art of record.

The combination of DE 19918025 and Sedra et al. references show all the limitations except for the limitations of a diode as called for in claims 3-4.

Schilling et al. teaches the usage of a Zener diode to a reference voltage device for providing a constant voltage against power surge. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to include a Zener diode at the output of the DE 19918025's charge pump to provide a constant local positive voltage thus preventing an erroneous operation.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P. CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam
Primary Examiner
Art Unit 2816

6/2/2005